Yichen (Mike) Gao

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Financial Engineering, **GPA: 4.08** **Expected December 2025**
Selected Coursework: Fixed Income Securities and Interest Rate Options, Market Microstructure and Algorithm Trading, Stochastic Calculus, Machine Learning, Portfolio Optimization, Quantitative Method of Financial Risk Management

University of Science and Technology of China, Hefei, China
Bachelor of Science in Statistics, **GPA: 3.63** **June 2024**
Selected Coursework: Multivariate Analysis, Regression Analysis, Monte Carlo Simulation, Non-Parametric Statistics, Time Series Analysis, Convex Optimization, Applied Stochastic Processes, Mathematical Statistics

SKILLS

Technical: Python, R, C++, C, SQL, Excel
Certificate: C++ Programming for Financial Engineering (Baruch College, CUNY)

EXPERIENCE

Quantitative Research Intern*, Changjiang Securities,* Shanghai, China **Sep. to Dec. 2023**

- Constructed the most efficient portfolio by deriving the stock return covariance matrix from the Barra multi-factor model and applying Markowitz portfolio optimization.
- Tried to train multi-layer perceptrons, recurrent neural networks, random forests, and support vector machines on style factors to construct machine learning factors and enhance the behavior of the portfolio.
- Achieved an annualized return of 19.65% with a Sharpe ratio of 1.79.

Quantitative Research Intern*, Tongyi Investment,* Shanghai, China **July. to Aug. 2023**

- Calculated the rank IC and ICIR of different stock factors and selected factors to build multifactor strategy.
- Adjusted the holdings of the CSI 500 Index constituent stocks to improve the rate of return and reduce volatility, and finally got a 8% excess return over the CSI 500 Index.

PROJECTS

Regression-based arbitrage strategy on the IV surface, *Cornell University*, Ithaca, US **Oct. 2024 to Dec. 2024**

- Continuously tracked and fitted the implied volatility surface to identify mispriced options.
- Developed a backtesting system based on Level 2 SPX option market data.

Algorithmic Trading in Electronic Markets (team of 2), *Cornell University*, Ithaca, US **Mar. to Apr. 2025**

- Analyzed and identified key drivers for algorithm design.
- Designed and backtested a time-weighted, score-based execution strategy with machine learning–based parameter optimization.

Research on Filling Missing Data Based on EM Algorithm (team of 2), *USTC*, Hefei, China **May to July 2023**

- Simulated various types of missing data in the data set using Monte Carlo simulation, and filled in the missing data using the EM algorithm.
- Used other methods such as multiple interpolation and direct deletion to fill in the missing data, then performed logistic regression on both the interpolated and original data to analyze error size caused by different filling methods.

LEADERSHIP EXPERIENCE

President of Student Bridge Association, *USTC,* Hefei, China **Sept. 2021 to July 2022**

- Elected by association members to lead the association of about ninety members.
- Held pair and team tournaments and organized weekly lectures for beginners.
- Designed a simpler game according to bridge rules to promote bridge to the broader community.

ACTIVITIES/INTERESTS & CERTIFICATES

Piano (advanced); bridge (advanced); skiing; hiking